MOHICAN FOREST PARK

KARL VER STEEG,
College of Wooster

One of Ohio's most scenic areas, unknown to many people, is located in southern Ashland County. It is easily accessible to tourists from any part of the State, as there are roads leading into the park from all sides. Recently a group of the Civilian Conservation Corps constructed roads, new trails and other features, greatly improving the area as well as making it more accessible.

The original part, an unorganized unit, contained 656 acres which were so located that the development of the area as a recreational center was all but impossible. Recently, enough land has been purchased and placed under option by the State to give the park an area of about 1,500 acres. Eventually it will contain approximately 2,100 acres. One of the dams proposed as part of the Muskingum Project (Pleasant Hill Dam) is being constructed in the Clear Fork gorge, at a point above the main area included within Mohican Forest Park.

The beauty of this park is not surpassed by any in Ohio unless it be the parks in Hocking County, in the southeastern part of the State. Mohican Forest Park lies, for the most part, within a heavily wooded, deep, narrow gorge, the valley of the Clear Fork, a tributary of Mohican River. Precipitous trails lead from the rim of the gorge down to the stream through a dense forest of hemlocks and pines with numerous hardwoods. The contrast in color is at all times beautiful, but especially so in the Fall when the hardwoods are in all their brilliance. According to R. R. Paton, Assistant State Forester, this forest contains the largest area of native white pine remaining in Ohio. Reforestation of the open areas has been progressing, pines being used almost entirely for this purpose.

If one enters the park from the south, he can obtain from the bluff of the gorge, the most spectacular view in the region. Here from a flat upland, one can look over a precipitous cliff, far down on the waters of the Clear Fork.

PHYSIOGRAPHY AND DRAINAGE CHANGES

The question which comes to one as he studies the region is why so deep and narrow a gorge is present here, when nothing

like it occurs in this section of Ohio. The answer lies in its physiographic history. A glance at the map shows that the valley of the Clear Fork narrows in the direction of flow and is narrowest at the position of the col in Mohican Forest Park, beyond which it widens, indicating that in preglacial and interglacial time, at the narrowest portion of the gorge, there was a

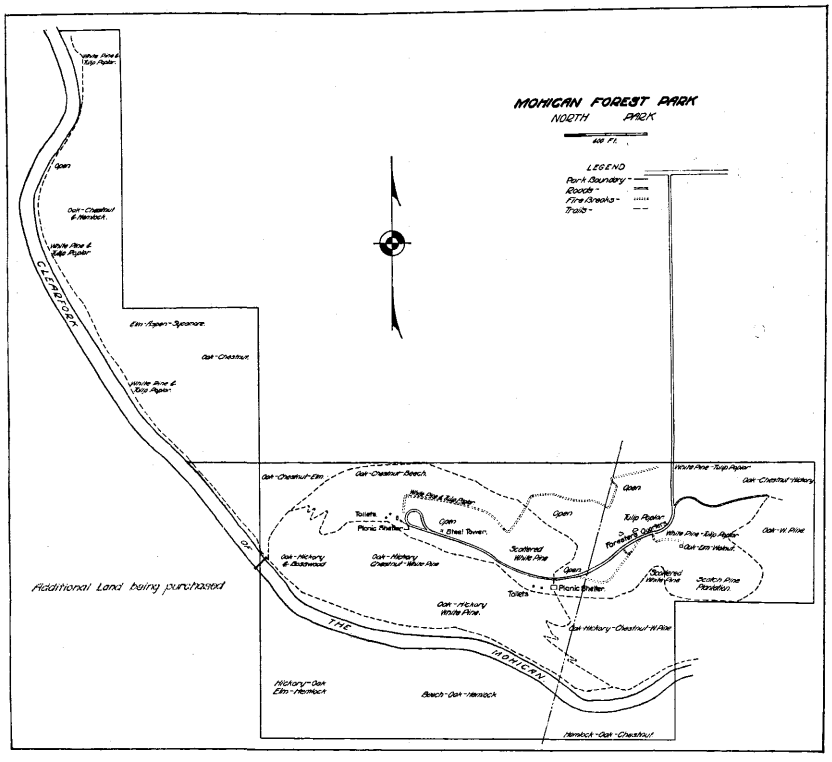

FIG. 1. Mohican Forest Park, north portion.

divide between two tributaries flowing in opposite directions. Due to the blocking of the drainage, the water was forced over the divide into Mohican River which flows south.

In an earlier paper[1] the present writer suggested that Clear Fork gorge might have had its origin as early as the

[1]Ver Steeg, Karl. Drainage Changes in the Vicinity of Loudonville, Ohio. Ohio Journal of Science, September, 1931, pp. 368-376.

Illinoian ice invasion. White[2] believes the diversion across the col occurred during the Wisconsin stage of glaciation and bases

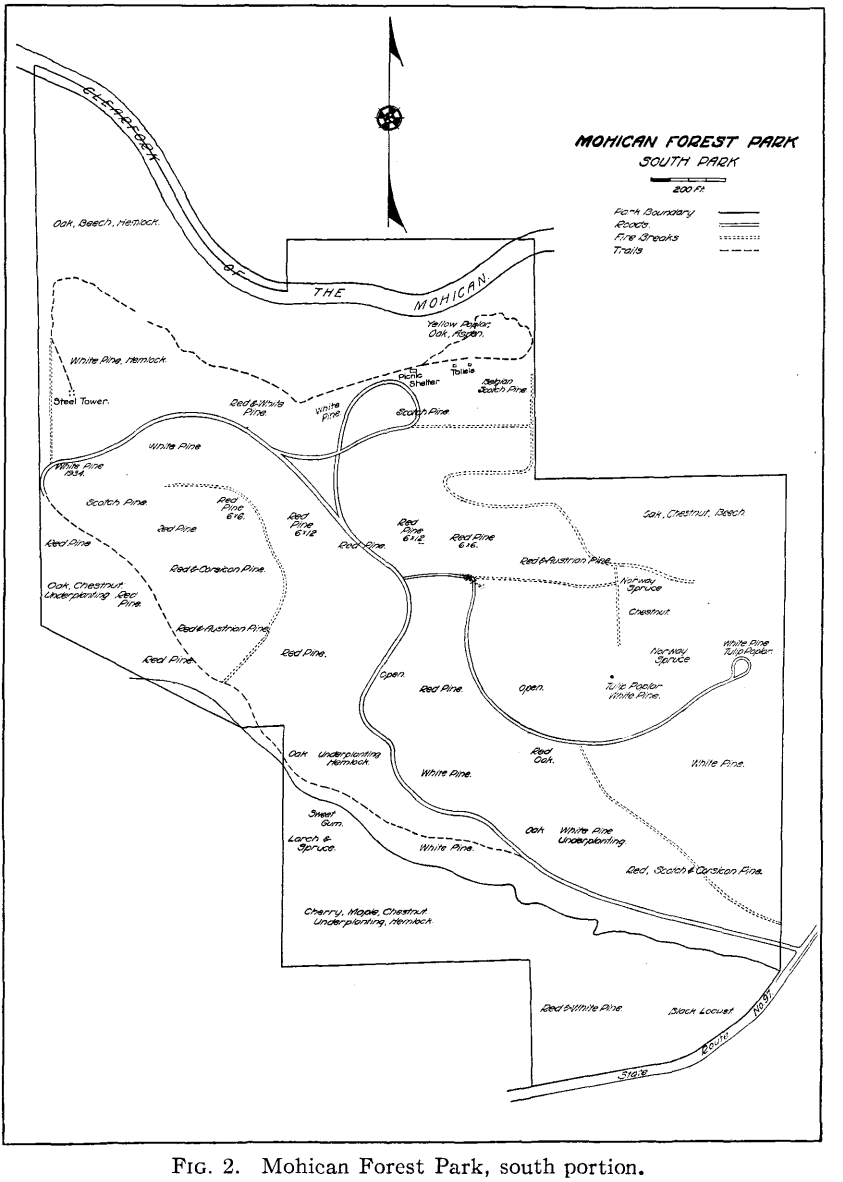

FIG. 2. Mohican Forest Park, south portion.

[2]White, George W. Drainage History of North-Central Ohio. Ohio Journal of Science, November, 1934, pp. 365–382.

his conclusions on the extreme narrowness of the col and its position immediately south of the Wisconsin glacial boundary. Although the present writer does not abandon the possibility that the diversion may have occurred during the Illinoian stage of glaciation, he believes that White's arguments have much in their favor and is willing to accept his interpretation as a basis for discussion.

It is now believed that the valleys in Ohio, in pre-Illinoian time, were deepened considerably during what is known as the Deep Stage. After the Kansan or pre-Kansan glaciation, during the Deep Stage, the Clear Fork occupied a deep, narrow valley. The tributaries flowing from the divide marked by the col, northwest to Clear Fork and east to Pine Creek, also occupied deep, narrow valleys during this time. If we accept White's interpretation, the Killbuck lobe of the Wisconsin ice-sheet advanced far enough south to dam the Clear Fork. The ponded waters at first found an outlet through the divide at the head of the valley of Smoky Run, southwest of Butler, and escaped into the valley of East Branch of Kokosing River near Ankenytown. This outlet was not used very long, for the Scioto lobe of the glacial advanced to the east of Ankenytown and far enough to the east of the outlet to close it. The ice of the border of the Killbuck lobe melted away from the old valley in northeastern Worthington Township so that the waters again followed the old course to the southwestern corner of Green Township. The edge of the ice prevented the water from entering the Black Fork valley and ponded it to a height sufficient to flow over the divide into the headwaters of a tributary of Pine Run, and eastward to the point where Pine Run and Black Fork meet. The chasm of the Clear Fork is the result of erosion during the Deep Stage, Wisconsin and postglacial time. The buried valleys[3] in north-central Ohio were deepened during this stage and compare in depth and narrowness with Clear Fork gorge. The extreme narrowness at the col in Mohican Forest Park is the result of recent postglacial erosion, probably rapid while silt-laden water from the Wisconsin ice-sheet passed over it. After the ice melted away the streams continued to flow as at present.

The Clear Creek gorge in Mohican Forest Park is an excellent example of a youthful valley. It is a quarter of a mile wide

[3]Ver Steeg, Karl. Buried Topography of North-Central Ohio. Journal of Geology, Volume XLII, No. 6, August-September, 1934, pp. 602-620.

across the top, tapering down to about 200 or 300 feet at the bottom. The characteristic features of youth are its V-shape,

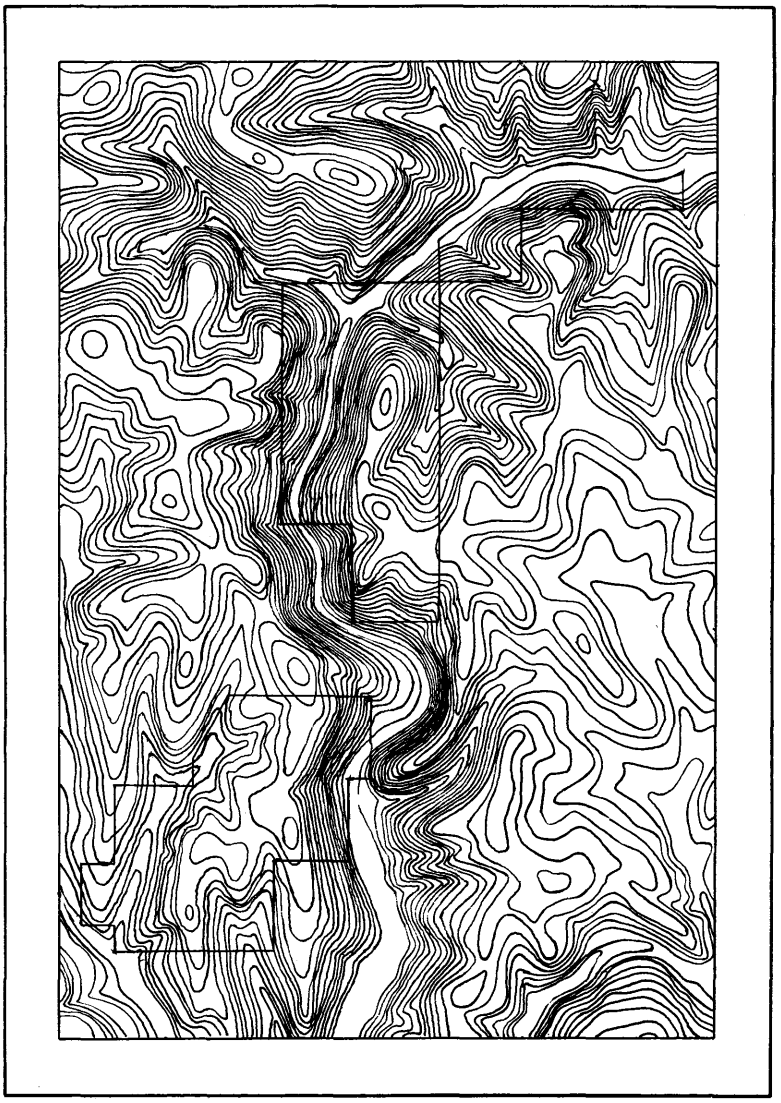

FIG. 3. Topographic Map of Mohican Forest Park, showing boundaries. (Contour interval—20 feet.)

steep sides with bold rock outcrops forming prominent cliffs, overlapping spurs, rapids, and the absence of a flood plain, indicating that the stream is actively cutting down its valley.

The presence of a massive sandstone formation, a hundred or more feet thick, which forms the rim of the gorge, is largely responsible for its narrowness. This resistant formation has prevented the rapid widening of the valley by weathering and erosion, retaining the narrow, gorge-like character for a longer period of time. Furthermore, the short period of time, from the Wisconsin to the present, has not been sufficiently long to enable the erosive agents to widen the valley and reduce its slopes to a lower angle of inclination. The youthful appearance of the valley is in harmony with the fact that a divide existed here in preglacial and possibly interglacial time, through which has been cut the postglacial gorge.

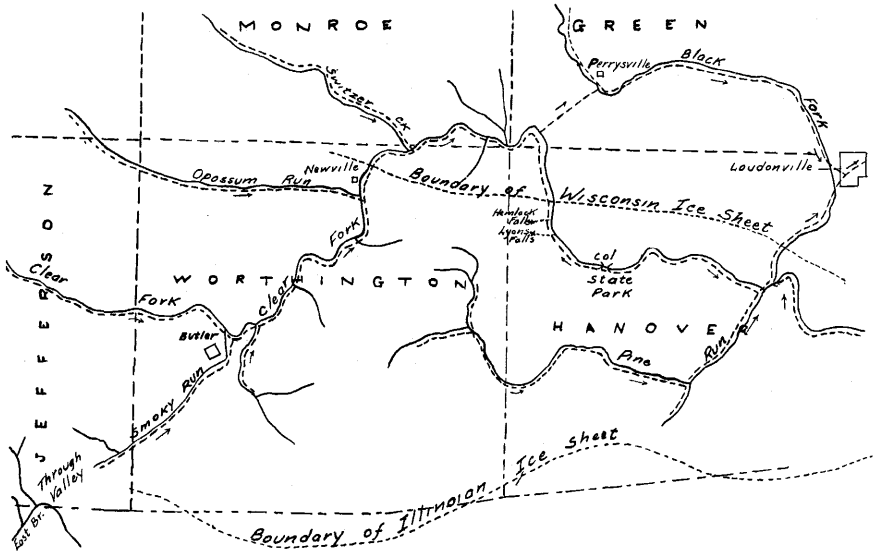

FIG. 4. Interglacial and present drainage lines of Mohican Forest Park region.

One of the most attractive spots is Lyons Falls. Here, at the head of a narrow ravine, leading to the Clear Fork, the water dashes from the upland over a forty-foot cliff which has been undermined, giving it the form of an amphitheatre. This cave, if it may be so called, resembles Ash Cave in the Hocking County area, except that the latter is much larger. It is evident that the combined weathering of the sandstone and pot-hole action are responsible for the undermining of the cliff. The undercutting or sapping process has been the cause of the recession of the falls. The narrow gorge with its overhanging

FIG. 5. Aerial photograph of Mohican Forest Park and surrounding territory.
(Loaned by Fred L. Smith, director, Ohio Bureau of Aeronautics.)

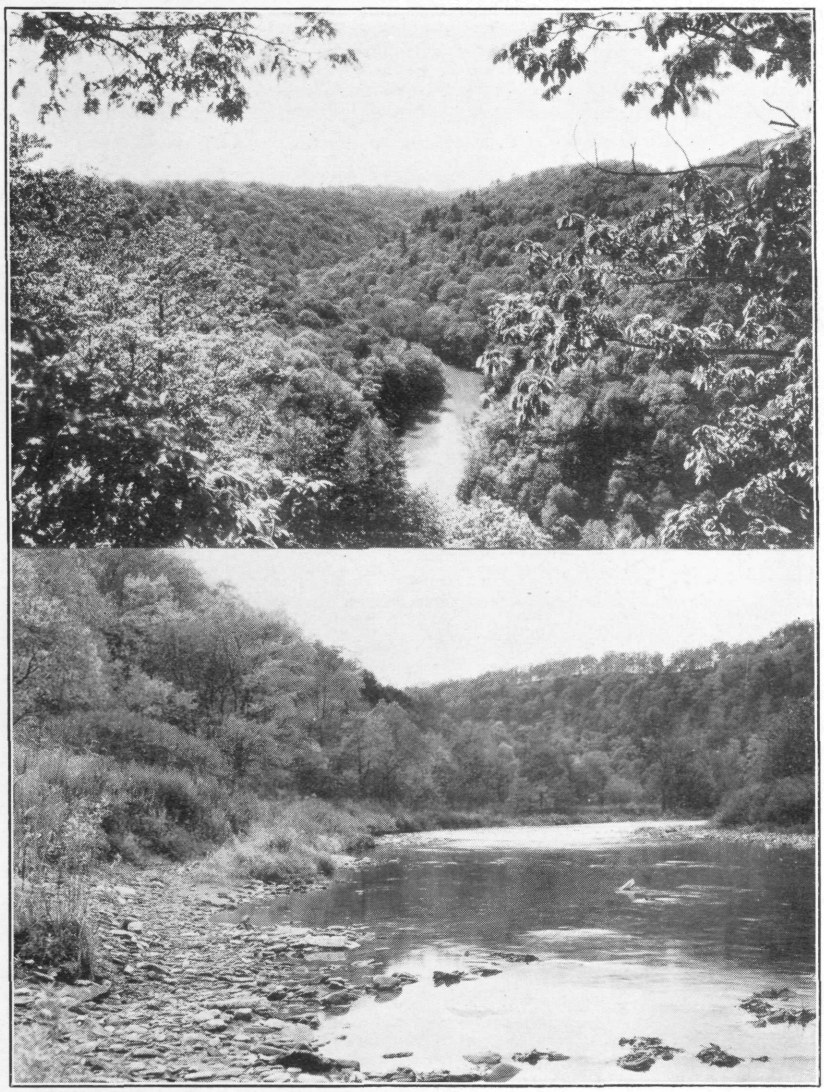

FIG. 6. Two views of Clear Fork Gorge.

cliff at its head, is similar to many of the glens cut in massive sandstone formations in other parts of the country. Hemlock Falls, beyond the ridge north of Lyons Falls, and located on another tributary of the Clear Fork, is smaller, but illustrates the processes of recession better than at the larger falls. Here large masses of sandstone have toppled from the semicircular, overhanging cliff which has a pot-hole at its base.

GEOLOGICAL FORMATIONS

The rock formations which outcrop in Clear Fork gorge belong to the Waverly series and were laid down in Lower Mississippian time. Two members of the Waverly series, the Cuyahoga and Logan formations, make up the succession of beds exposed in the gorge. Only a part of the Cuyahoga formation is exposed; the valley floor is cut in it and it extends well up the sides of the valley. The Logan formation which overlies the Cuyahoga is composed chiefly of sandstone, whereas a larger proportion of shale makes up the Cuyahoga. The Clear Fork flows over beds which are composed, for the most part of shale, with thin sandstone layers interstratified. With the exception of a few thin beds of conglomerate, the entire succession of beds is sandstone and shale, the total amount of sandstone exceeding the shale in thickness. The high cliffs which form the rim of the gorge and add so much to the scenery of the park, are composed of the thick-bedded sandstones of the Logan formation.

A section of the rock formation in the gorge, from the stream level to the rim and beyond to the upland, are approximately as follows: Up to about 55 feet above the level of the stream, thin beds of sandstone make up the series. About 30 feet of sandstone with shale horizons follows. There appears at approximately 80 to 85 feet above the stream, a bed of conglomerate about one foot thick. This stratum is composed of pebbles about as large as a pea, cemented by iron oxide. It is a persistent formation and is the source of water in the region which it underlies. Above the conglomerate lies about 10 feet of thick-bedded sandstone, upon which rests a thick succession of slabby sandstone interstratified with occasional strata of shale, the whole approximately 140 feet thick. Above this and extending up to the rim of the gorge is a thick succession of sandstone beds, constituting the main part of the Logan formation.

FLORA

The following description of the flora of Mohican Forest Park was supplied by Assistant State Forester R. R. Paton, of the Ohio Agricultural Experiment Station.

The forest in the valley of the Clear Fork, in the area enclosed by Mohican Park, varies widely in its composition, due largely to the depth of the gorge. The adjacent highland is farm land, reaching to the summit of the valley slopes. The native forest of the gorge has encroached on the adjacent farm land in places. This volunteer growth, or old field type, is composed of staghorn, sumach, pignut, mockernut, shellbark hickories, white pine (where seed trees are present), large tooth aspen, hawthorn, sassafras, black cherry, red maple and an occasional red cedar.

The forest in the valley changes as it progresses from the top of the valley wall or ridge type, through the upper slope, middle slope, and lower slope to the bottoms, and the south wall is characteristically different from the north wall. The ridge forest on both sides is essentially the same and is composed of white, red, scarlet, black and chestnut oaks, red maple, the hickories, an occasional white pine and formerly chestnut. On the south wall, down from the ridge to the upper slope, hemlock, beech, hard maple, black cherry, occasional yellow poplars, white ashes and ironwoods (*Ostrya Virginiana*) come into the forest composition. The hemlock begins at the top of the valley wall, while the chestnut oaks become noticeably fewer in number within a short distance below the ridge. The middle slope forest is denser, the beech, yellow poplar and white ash are more numerous, shad bush appears and the hickories become less numerous. The lower slope forest is still denser with a great variety of species. The hemlock is common, in places being the predominant tree; the beech, hard maple, yellow poplar, white ash and shad bush are more common and butternut, black walnut, basswood, white red elms, black alder, blue beech, Canadian yew, pawpaw, mountain maple (*Acer Spicatum*), witch hazel, spice bush and an occasional yellow birth is found. This is a typical northern beech, maple, hemlock forest, with species occurring here which are rare in Ohio, namely, hemlock, yew, mountain maple and yellow birch. The hickories and oaks are present but not numerous. In the bottoms, sycamore, willows, buckeye (*Resculus Glabra*), haw-

thorn, bladdernut and dogwood are found near the stream. The north slope of the gorge is similar to the south side on the middle and upper slopes except for the substitution of white pine for the hemlock. The lower slopes have a higher percentage of oaks, fewer yellow poplars, hard maples and beech and no Canadian yew, mountain maple, black ash or yellow birch.